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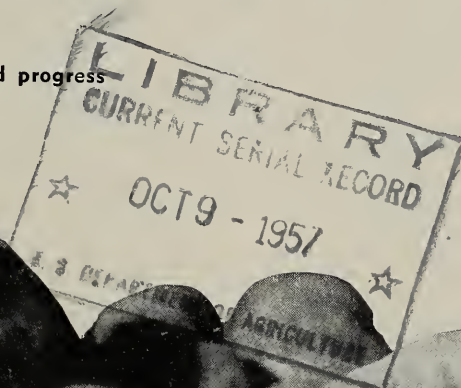
AGRICULTURAL MARKETING

IN THIS ISSUE

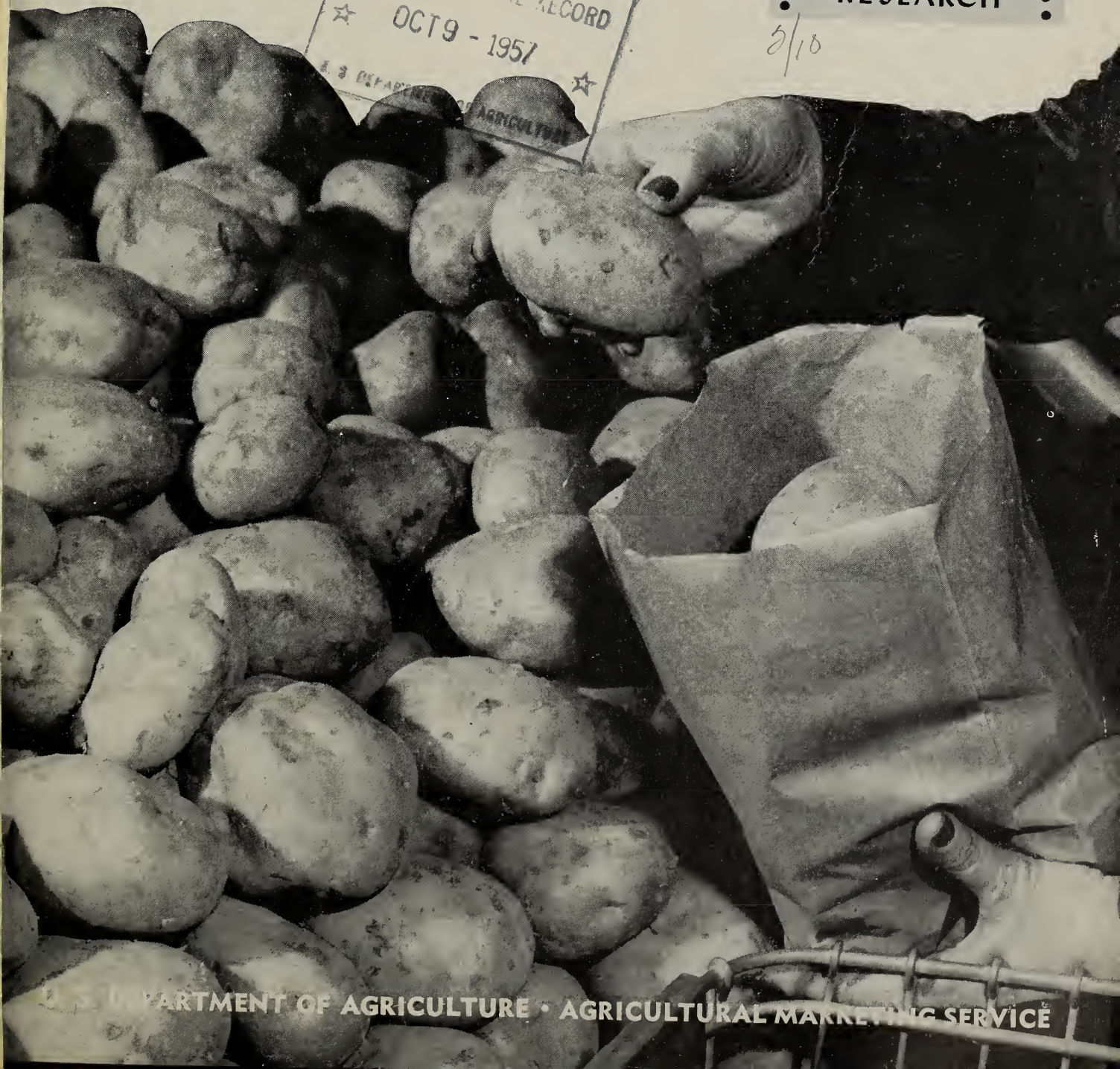
Maine potatoes—problems and progress

Marketing costs for chicken

States match Federal funds



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U.S. DEPARTMENT OF AGRICULTURE • AGRICULTURAL MARKETING SERVICE

Contents

October 1957

Milwaukee Restaurants Go for Dehydrofrozen Peas	3
Building a Better Market for Milk	4
Vents Improve Cooling in Cartons	6
More Money from More Tests	7
States Match Federal Funds	8
Color Measurement Method for Tomato Juice	11
Maine Potatoes—Problems and Progress	12
Slicing Up the Chicken Costs	14
White Collar Workers Increasing in Food Manufacturing Industries	16

Cover

"Shipping only the best" was a big factor in helping Maine overcome its marketing problem when it was faced with a bumper crop in 1956. In that year, Maine had the biggest crop since 1949. Competing areas also had big crops. Maine's marketing problem was further aggravated by considerable frost damage. Ed Gallahue, marketing specialist in the Fruit and Vegetable Division of AMS, shows on pages 12-14, how teamwork and planned marketing helped to solve the problem.

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Milwaukee Restaurants go for Dehydrofrozen Peas



By Edward J. McGrath

A NEW FOOD PRODUCT — dehydrofrozen peas — has met the test of acceptance in the restaurant trade and shows wide promise of expanding the market for peas.

According to market development specialists of the Agricultural Marketing Service, in a recent study among 100 restaurants in Milwaukee, Wisc., the new product fared well in comparison with frozen and canned peas.

The research was conducted in cooperation with the Western Utilization Research and Development Division of the Agricultural Research Service, which developed the new product. As yet, the product is not widely available commercially.

To prepare dehydrofrozen peas, processors remove about two-thirds of the water content from fresh peas and then quick-freeze them. This process reduces the fresh weight about 50 percent. Direct results of this reduction in both volume and weight are substantial savings in freezing, packaging, transportation, storage, and other handling and distribution costs.

Restaurant operators found that dehydrofrozen peas compare favorably with frozen peas in ease of prepara-

tion and cooking. More than half of them considered the new product as easy to prepare as canned peas.

The appearance of the new peas after cooking was better than regular frozen peas, according to the operators, who also said the test product was greener and firmer. A majority of them expressed the opinion that dehydrofrozen peas are unsurpassed in keeping their freshness, flavor, and good appearance even after considerable periods of time on the steam table.

Savings in scarce freezer storage space in restaurants is another important factor. Most of the restaurant operators interviewed considered this a big advantage of the new product.

Restaurants ordinarily use 2½-pound packages of frozen peas. Even though 2½ pounds of dehydrofrozen peas are equivalent to 5 pounds of regular frozen peas, 7 out of 10 operators preferred that the new product be packaged in the 2½-pound packages.

At the time of the product test last winter, the restaurants were paying an average of 24 cents a pound for frozen peas. Most of the operators said the dehydrofrozen peas were worth 3 cents more per pound. They also indicated a willingness to pay up to 22 cents a reconstituted pound for the new peas to replace canned peas, for which they were paying an average of 15 cents a pound.

Many completely dehydrated products do not recover fresh texture and flavor when reconstituted. Irreversible changes take place in air-drying to the low moisture levels necessary for preservation.

In the case of peas, which are very high in moisture content, complete dehydration reduces water content from about 75 percent to around 6 percent. Dehydrofrozen peas retain about 33 percent moisture.

The idea is to dehydrate fruits and vegetables to the lowest level that will not adversely affect quality and then preserve them by freezing. The combination of these two methods is called "dehydrofreezing."

Not only do dehydrofrozen fruits and vegetables retain the quality of those that are regularly frozen, but the partial dehydration actually imparts certain additional advantages. Many products, particularly fruits frozen with sugar, drip badly when thawed. This is avoided in dehydrofreezing. Dehydrofrozen products can be employed to control the moisture content when used in meat pies, soups, stews, and so forth.

Dehydrofrozen fruits and vegetables, when compared with frozen products, have less weight and bulk, less drip after thawing, better moisture control in cooking. Compared with dried products, dehydrofrozen products reconstitute easier and more completely, and have better flavor, texture, and color.

Edward J. McGrath is an agricultural economist in the Market Development Branch of AMS.

The Special Milk Program

Building a Better Market for Milk



MILK marketers are cashing in on an opportunity to sell more milk now, and build better markets for the future—through the Special Milk Program.

Figures on operation of the Program during the last fiscal year show that dairymen—producers and distributors—sold a total of nearly 1,800,000,000 half-pints of milk through the program during the year. That's 967,500,000 pounds of milk—a little less than 1 percent of the year's total production.

Even more striking is the relation of that total to the amount of surplus milk. Purchases of dairy products under the price-support program took about 5 billion pounds of milk last year. Thus, the Special Milk Program makes a market for about 20 percent of the milk surplus. And even more important is the fact that dairymen have an opportunity to make the program still more effective this year.

The possibilities for increase are demonstrated by the program's record of growth since it started:

<i>School Year</i>	<i>Quantity Consumed (half-pints)</i>
1954-55	449,800,000
1955-56	1,394,200,000
1956-57	1,750,000,000

All of this milk moved through established channels of trade—from dairy farms, through distributors, into use. The program relies on regular sources for the milk, thus boosting business all along the dairy marketing channel. Many dairymen—both on their own, and through the efforts of their national organizations—have seized on the program's possibilities, and have done a fine job in developing its full potential in the schools and child-care institutions that are eligible to take part in it.



USDA generally operates the program through State educational agencies. School people have made a fine record of getting it into effective operation. Procedures were designed to give them considerable latitude in putting the program into effect in their institutions and schools. That was done because the school people are the ones who know what the opportunities are for boosting milk consumption by children at school.

They've proved enthusiastic supporters.

Thus, the first thing for dairymen to do—if they want to take advantage of the program to boost their milk sales—is to check with the officials of the schools and child-care centers.

Originally, the program was made available to schools of high school grade and under. They're still eligible. They also offer the best opportunity for further participation. But there are other possibilities as well: a year ago, the program was extended to non-profit nursery schools, child-care centers, settlement houses, summer camps, and similar nonprofit institutions devoted to the care and training of children.

A dairyman interested in the program should familiarize himself with the operation of the program. The details of the program can be obtained from a dairy association representative, or from two publications issued by the Agricultural Marketing Service, USDA: *The Special Milk Program* (PA-248) and *The Special Milk Program for Summer Camps and Similar Child-Care Institutions* (PA-334).

Once a dairyman is sure of how the program operates, he can check with eligible participants in his area to be sure they know about it. Chances are that most of them will already be participating.

But the dairyman may find some who don't know about the Special Milk Program. In this case, he can explain it to them—pointing out the advantages of the program—and then put them in touch with the persons who administer the program in their State. It would generally be the State educational agency; the complete list appears in PA-334.

The dairyman will be able to do the most good when he finds some eligible participants who know about the program but who have decided not to take part.

It is possible that they may not have understood exactly how it works. The dairyman can help here by explaining how easy it is for them to take part. They may have thought that the possible results were not worth the effort. The dairyman would be able to cite some of the big increases achieved by other schools.

Or, they may not be participating for any one of a number of practical considerations that can be resolved by an informed dairyman. For example, some schools have not joined the program because they could not get delivery of sufficient quantities of milk at specified times. Others may be short on facilities and are not taking part because they have no way to keep the milk.

The dairyman can help with these situations.

One way is to find means to finance refrigerating equipment for the school. Another way is to help arrange schedules for distributor deliveries of milk to the school so they'll be able to serve cold refreshing milk to children at the time they want it most.

In such ways as these, dairy producers and distributors can help themselves to the full wealth of opportunity that is offered by the Special Milk Program.



VENTS IMPROVE COOLING IN CARTONS

By G. F. Sainsbury

VENTED cartons with perforated trays allow tray-packed apples to cool in half the time required for unventilated cartons and provide a performance equal to that obtained in standard packs with wooden boxes.

This finding by AMS specialists is important to fruit shippers because of the increased use of cartons in marketing the Pacific Northwest apple crop. More and more handlers are demanding apples in tray packs.

Cartoned apples in unvented cartons often take 3 times longer to cool than those packed in wooden boxes. Moreover, the fruit in cartons remains an average of 2 degrees warmer than that in wooden boxes.

This is because the flat surfaced cartons are often stacked tightly in storage without allowing air to circulate to the sides of the boxes. Wooden crates with bulging surfaces cannot be stacked so tightly, and more of their side surface is open to the air. Even ideal stacking arrangements do not entirely eliminate

the differences in cooling; fruit in wooden boxes still cools more quickly and to a lower level.

Since cartons are gaining wide acceptance on the market, researchers were anxious to find out how to better cool cartoned fruit. They knew that if the air could get inside the carton, the unwrapped tray-packed fruit probably would cool better than the standard wrapped apples in wooden boxes.

Vents seemed to be the answer. But where should they be and how big? Should the trays be vented too?

Three different venting arrangements were tested with an unventilated carton with unperforated trays also included in the experiment. Vent arrangements were as follows: (1) Two $\frac{1}{4}$ " x 2" vents in each end of the carton and unperforated trays; (2) two $\frac{1}{4}$ " x 2" vents in each end and perforated trays; (3) two large $\frac{3}{4}$ " x 2" vents in each end and perforated trays.

The carton with large vents and perforated trays showed up best in the experiment. Fruit in this carton cooled in about the same time as the standard packs in wooden boxes. For both it took about 52 hours to remove three-fourths of the field heat.

The carton with the small vents and perforated trays required about 80 hours. The other two cartons—the ones with unperforated trays and with either small vents or no vents at all—took 100 hours.

But probably more important than the difference in cooling time is the stabilized temperature of the fruit inside the carton. Usually a package that cools quickly reaches a temperature very close to that of the air around the package. One that cools slowly stabilizes with a greater temperature difference between the fruit and the air.

Here's how the fruit in the various test cartons differed in temperature from the air outside the carton. Stacking methods in all cases exposed two ends of each carton for cooling.

- Carton with large vents, perforated trays 0.8°
- Carton with small vents, perforated trays 1.6°
- Carton with small vents, unperforated trays 2.0°
- Carton without vents, unperforated trays 1.9°

USDA research in cooling and storing tray-packed apples in cartons points up four important facts:

(1) Stacking should allow a surface exposure equal to two ends of the carton.

(2) Large vents should be placed in the exposed surfaces of the cartons to allow ventilation. Preferably, vents should be placed at an upper and lower level.

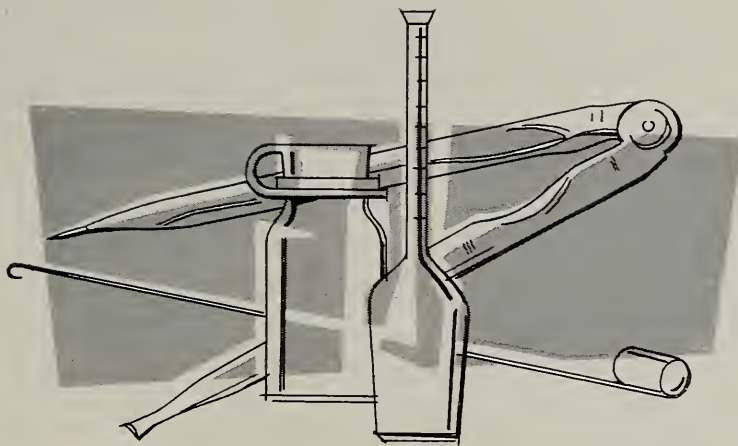
(3) Perforated trays improve cooling performance.

(4) When all of these measures are taken, the cooling performance of tray-packed cartons can equal that of wooden boxes containing wrapped fruit.

G. F. Sainsbury is an agricultural engineer at the Transportation and Facilities Branch Office at Wenatchee, Wash.

More Money from More Tests

By Fred Stein



ALTHOUGH random fresh sample programs for measuring butterfat content of milk usually cost more than composite sample programs, in the long run producer returns tend to be higher with the random tests.

In the compositing procedure, samples are taken over a period of days and combined for testing. The periods for the composite range from 7 to 15 days. But the longer the samples are stored before testing, the lower the butterfat content appears in the tests.

The random fresh sample method calls for 2 or 3 or more fresh samples taken at random during a shipping period, with tests run immediately on the samples. Payments are based on an average of the test results.

As the cost of sampling and testing goes up with the number of tests made, the random fresh sample method is more expensive. But composite sample tests tend to understate the true butterfat content, according to Agricultural Marketing Service researchers, while the tests from random samples come pretty close to the true average. As a result, random samples mean higher payments to the producer.

These higher payments resulting from random sampling more than offset the cost of the greater number of tests, say the economists. As they point out, the use of random tests is especially profitable for the big producer. Although unit costs for testing are the same for all producers, the total returns are greater for producers with large shipments.

Researchers studied the fixed and variable costs of testing at different sized laboratories to learn the effect of testing procedure on returns to producers. Using hypothetical laboratories for the estimates, they figured fixed costs per test at 14.2 cents at a laboratory testing 80,000 producer samples per year; 25.8 cents at a laboratory handling 18,000 samples.

Fred Stein was formerly with the Marketing Organization and Costs Branch, AMS; he is now a marketing specialist with the Dairy Division.

Variable costs depended on sampling costs, with no sampling charge when receiving crews or haulers took care of the sampling. The sampling cost was included only when sampling required the exclusive attention of one worker. The variable cost without sampling charges was 7.6 cents; with sampling charges it was 14.2 cents.

A program of five random fresh tests would cost \$1.33 per producer at the larger laboratory and \$2.32 at the smaller one, when no sampling charges are included. With sampling charges, the program would cost \$1.66 and \$2.65, respectively.

With no sampling costs, composite sample programs for 7, 10, and 15-day programs cost less than 5, 4, and 3 fresh tests, respectively. But with sampling costs included, the cost of all composite programs is more than programs of 15 or more fresh tests.

On a hundredweight basis, the testing costs were 7.7 cents for producers shipping 3,000 pounds per month, and 1.3 cents for producers delivering 18,000 pounds, when test costs were estimated for the smaller laboratory. Costs for the larger laboratory were slightly more than half these amounts.

Commercial laboratories or regulatory agencies whose laboratories are outside the plant incur the additional cost of transportation. For laboratories handling 80,000 samples per year, transportation costs per sample ranged from 1.7 cents to 10.4 cents, an average of 6.6 cents per sample. For a laboratory handling only 18,000 tests per year, transportation costs per sample ranged from 4.6 cents to 14.7 cents per sample and averaged 11 cents.

When a plant shifts to farm tank assembly, practically all sampling costs are eliminated, and composite tests may be preferable. With only a partial shift from cans to farm tank assembly, the choice between fresh or composite samples will depend to some extent on available labor. Otherwise, fresh random sampling is usually the better bet for the producer.

STATES MATCH FEDERAL FUNDS TO IMPROVE MARKETING SERVICES



By William C. Crow

ABOUT a million dollars a year now goes into the pockets of North Carolina cotton farmers, which before 1948 was lost through damage in ginning.

As a result of the North Carolina Department of Agriculture's assistance to cotton gin operators in improving ginning equipment and operations, the percentage of gin-damaged cotton in that State has dropped from about 16 percent in 1948 to less than 1 percent. Similar results have been reported in Virginia and Louisiana.

This is only one example of the many benefits of the

William C. Crow is liaison officer of the Matching Fund Program, State departments of agriculture.

Matching Fund Program of the Agricultural Marketing Service, in which 42 States and territories match Federal dollars to improve marketing services throughout the country. This example and the others mentioned in this article are taken from the annual reports of the cooperating State agencies.

When Congress passed the Agricultural Marketing Act of 1946, it not only provided for a comprehensive and coordinated marketing research program, but also a marketing service program to be carried out in cooperation with the State departments of agriculture on a matched fund basis.

This program was conceived as a practical means of assisting marketing agencies at all levels of distribution in putting the results of marketing research into use. It also helps marketing agencies maintain the quality of farm products as they move through market channels, provides more timely and expanded market information services, and increases the consumption of farm products.

Some 122 projects are underway in the 42 States and territories, including work on virtually all farm commodities. These projects assist in reducing deterioration and spoilage (35 States); expanding outlets for farm products (24 States); showing marketing agencies how to improve facilities, handling, equipment, and methods (26 States); and better collection and spreading of market information (32 States).

Take dairy products for example. Last year Vermont marketing specialists assisted 79 out of 83 dairy plants shipping to out-of-State markets in testing for flavor and odor in milk, and in follow up work.

Wisconsin was one of the earliest States to undertake quality improvement work on dairy products under a matched-fund project. Progress is evidenced by the fact that the percentage of A or AA butter has increased from 41 percent in 1951 to nearly 59 percent in 1955.

Both Wisconsin and Minnesota have featured intensive quality control programs as a phase of their overall quality improvement projects. In Sheboygan County, Wisc., where a program of this type has been in effect since 1951, the percentage of No. 1 milk increased from 18.8 percent to 30 percent in 5 years.

In North Dakota, nearly all cream stations have installed walk-in coolers. Nearly 600 producers in Mississippi were assisted in the installation and use of improved facilities and methods needed for delivering higher quality milk.

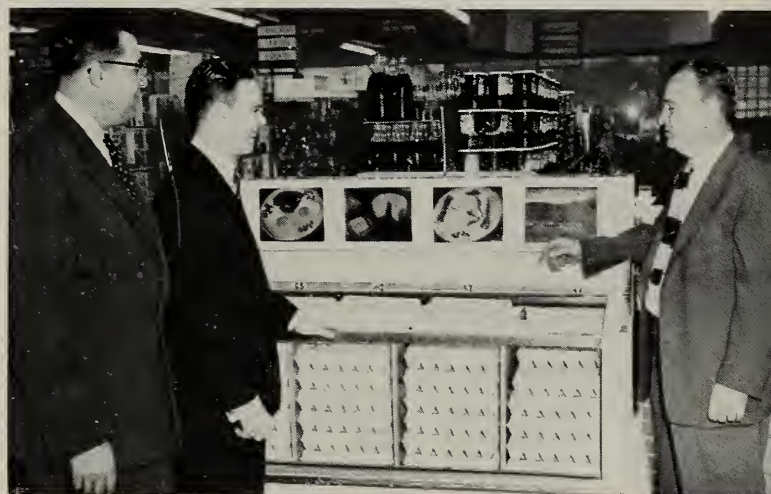
Some 26 States are working on better marketing of poultry and eggs. In Kansas, Oklahoma, and Tennessee, promoting sales of eggs on a graded basis resulted in growers getting increased prices of 6 cents or more per dozen.

Improved quality of eggs in Kansas brought increased returns to growers totaling more than \$300,000. Six poultry processing plants in North Carolina cut costs by \$120,000 a year through improved operations.

Projects designed to improve and maintain egg quality were recently initiated in Georgia and Missouri. Although the Georgia program has been in operation for less than a year, that State has held 45 egg candling and grading schools, at which approximately 1,500 persons received instruction on the factors of egg quality and the procedures necessary at different levels of distribution to maintain quality.



Marketing specialists encourage Virginia strawberry growers to pack and ship their berries in pint plastic cups and tray flats.



Missouri agriculture official, poultry and egg men inspect self-service egg case which upped sales 63 percent in 30-day period.



Virginia State Agriculture Commissioner, Park Brinkley, center, looks over table covered with samples of State's famous apples.

State marketing specialists in West Virginia estimate that improved market information to broiler producers and buyers increased grower income about \$475,000 last year.

In the fruit and vegetable field, Kentucky marketing experts showed some 2,000 strawberry growers the proper methods of picking, grading, and packing, and increased the pack of U.S. No. 1 berries by 25 percent. This meant some \$125,000 more to growers. Georgia tomato growers got about \$2 more per field box for their tomatoes last year as a result of similar information.

Livestock producers in 27 States also benefit from the program. Indiana, Kentucky, Maryland, North Carolina, Tennessee, Virginia, and West Virginia are assisting the livestock industry in organizing and conducting sales.

These sales are publicized over a wide area by radio, television, and newspaper announcements to attract buyers within the State as well as in nearby States. Prior to the sales, specialists sort the animals into uniform lots by age, sex, weight, and grade. These grading demonstrations and the assistance in organizing and conducting the special sales have resulted in significant increases to producers.

In West Virginia, for example, special sales marketed over 20,000 head of cattle at price premiums of \$8 per head more than prices for similar grades at regular markets.

In Kentucky and Maryland, extensive work has been done on reducing injury and shrinkage in livestock during the marketing process.

Eighteen States have marketing programs dealing with grain, and 3 States are assisting with the marketing of tobacco. The Matching Fund Program also serves producers of wool, honey, sorghum, syrup, dry beans, nuts, and timber products.

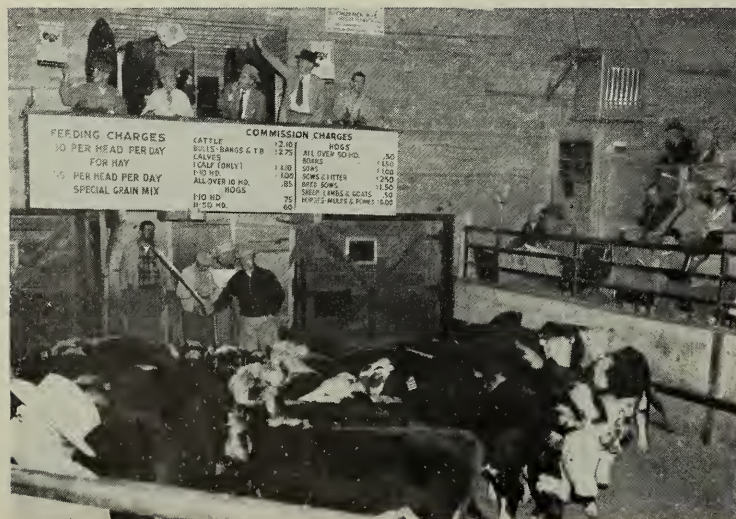
Cooperation is the key to this program—not only cooperation between the Agricultural Marketing Service, USDA and the 42 State departments of agriculture, but with many other agencies, including State extension services and experiment stations, vocational agriculture, industry and trade groups, and producers.

To make the best use of Federal funds, AMS administrators get the advice of some 13 advisory committees. They also discuss marketing problems with State leaders. These proposals are checked with Federal marketing specialists, and those projects deemed most useful are approved for expenditure of Federal funds.

After the projects are approved, USDA marketing specialists travel throughout the States, advising State leaders on the execution of the work. Special short courses are held to train State marketing specialists. Reports of work done throughout the country are published and distributed.

AMS liaison people assist in setting up annual workshops on ways of reducing marketing costs. These are attended by marketing service workers from the co-operating States.

When the Matching Fund Program got underway in 1948, some 20 States had applied for participation in the program. By 1956, funds for the program had gone up nearly five-fold, and 39 States and 3 territories were a part of its activities.



Through Matching Fund Program, marketing specialists help livestock industry organize and conduct sales like this Maryland auction of feeder calves.



Wisconsin buttergrader at work in lab. His grade is compared to plant grade label as check on State graders.

Improved Color Measurement Method for Tomato Juice



By Leonard S. Fenn

HOW important is the color of canned tomato juice? To the packer of this product, it is of vital importance—it may mean the difference between his product being classified as U. S. Fancy (U. S. Grade A) or U. S. Standard (U. S. Grade C)—and consequently make an important difference in the price he receives for his pack.

Standardization specialists in the Fruit and Vegetable Division, AMS, who have the responsibility for developing grade standards for classifying the quality of processed foods, are concerned too. The division's Inspection Service uses these standards as yardsticks for measuring quality and determining the grade of the product. The industry in turn uses the grade as a marketing tool in selling its product, fulfilling contracts, and settling disputes.

This factor—the color of canned tomato juice or, more particularly, the best method of measuring the color—has been the object of intensive study.

The U. S. grade standards that contain the color requirements for canned tomato juice have been in effect since 1938. They define the color required for a fancy color rating as “typical of well-ripened tomatoes” and for the standard classification as a color “with red predominating.”

Interpretation of these standards, as may be imagined, is difficult. The Department has, through conferences with industry, developed “color cut-off points”—colored spinning disks which illustrate the color which the product must match to qualify for the respective grade designation.

Ever since these color cut-off points were adopted, the Inspection Service and the industry have been devising better and more efficient methods of comparing these color disks with the actual product. The hand spinner has been replaced with spinners driven by

small motors. Black and gray containers for examining the sample have been adopted for general use. Mirrors have been ingeniously arranged to bring a section of the sample and a section of the spinner together in adjacent fields so that the inspector can view them simultaneously.

The problem of lighting has been a difficult one for the industry and the Inspection Service in evaluating color. As one researcher put it, “color is not only how you see it, but how you light it.”

“Full diffused north daylight” is the ideal for judging color. Obviously, this ideal is not always available and is a constantly varying factor. So, AMS standardization specialists developed a special lighting cabinet, which is now manufactured commercially according to USDA specifications and is used by fruit and vegetable inspectors to grade canned tomato juice. This instrument is also available to the industry.

In conjunction with the use of the cabinet, inspection offices have also been furnished with new spinners made from a single order of colored paper. Careful checks on the color classifications of tomato products by inspectors using the improved equipment indicate a remarkably uniform application of the standards.

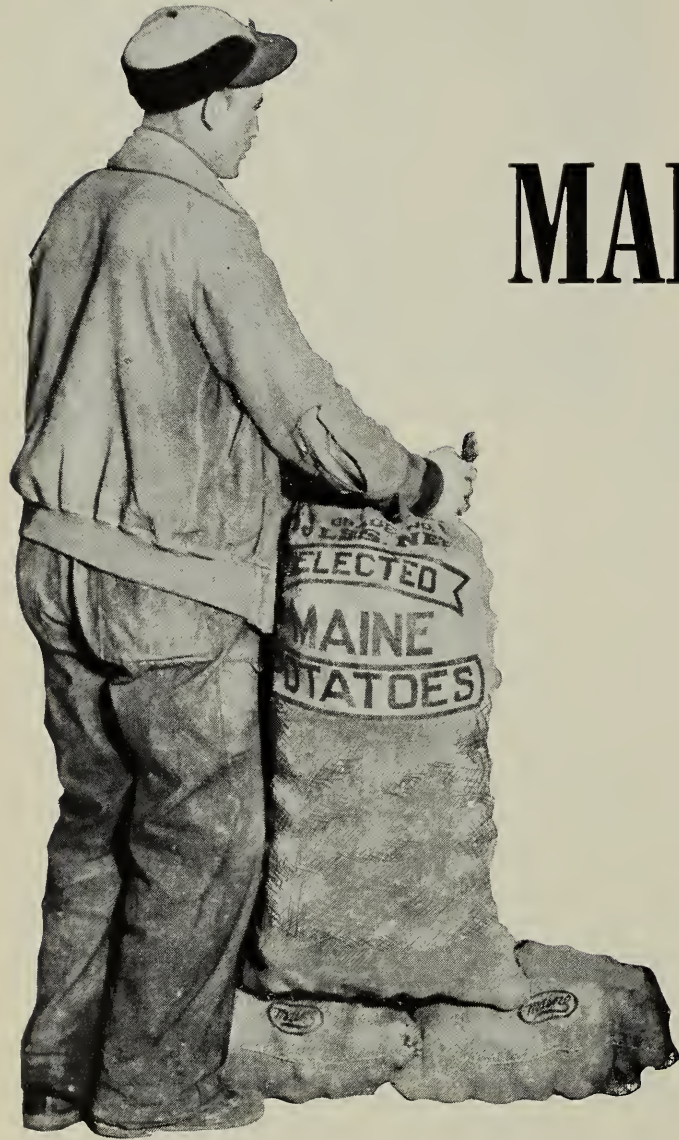
The U.S. Department of Agriculture has proposed that a revision of U.S. standards for grades for canned tomato juice be issued to include, among other things, this method for evaluating color.

The proposal was discussed at meetings with industry this past summer in Washington, D.C.; Berkeley, Calif.; and Chicago.

At present, tomato juice canners are studying the proposals as they would apply to their own operations.

When the opinions and comments of all segments of the industry have been considered, and the industry as well as standardization specialists are satisfied with the proposed changes, it is possible that new standards for canned tomato juice will be issued.

Leonard S. Fenn is Head of the Standardization Section, Fruit and Vegetable Division, AMS.



MAINE POTATOES

Problems and Progress

By E. E. Gallahue

In 1956 the Maine potato industry faced a crisis caused by overproduction. Teamwork and planned marketing helped to solve the problem. But to retain and expand its market, Maine must continue to "ship only the best." Continued effort and good planning at planting as well as at harvesting can keep supplies at manageable levels and eliminate the need for Federal government payments under a diversion program.

MAINE potato farmers, surveying prospects for marketing their bumper 1956 crop of 40,000,000 hundredweight, found the outlook pretty desperate. Maine had the largest crop since 1949. Competing areas had big crops too. Maine's marketing problem was further aggravated by considerable frost damage.

Industry members realized that they had to make maximum use of their available marketing programs in order to stave off price disaster which both surplus and questionable quality threatened.

After the crop was dug, the 20-man Federal marketing agreement committee met, took stock, and started planning the Maine marketing pattern. Experience indicated that 42,000 cars—about 17,700,000 cwt.—of Maine potatoes was all the fresh table stock market would take at prices acceptable to farmers. Certified

seed shipments to out-of-State farmers would probably take an additional 6,500 cars or about 2,800,000 cwt. This left about 20,000,000 cwt. to be disposed of in local outlets, such as frozen french fries, canning, dehydration, starch, livestock feed, seed, and farm use.

The table on page 13 shows the marketing program laid out by the industry compared with the disposition actually accomplished. The figures speak for themselves. Maine farmers did a very creditable job of carrying through their marketing plan.

How was this accomplished? One of the first steps was to arrange a systematic grade and size survey at harvest time by the Federal-State inspection service to show composition of their crop. This information was essential for planning the type of marketing regulations needed to tailor supplies to available outlets.

Next, the Extension economist from the University of Maine helped the committee to develop estimates of

E. E. Gallahue is a marketing specialist in the Fruit and Vegetable Division of AMS.

the volume of table stock potatoes that could be shipped at prices acceptable to Maine growers. He took account of supplies in Maine and in competing areas, general economic conditions, and other factors to give the committee a balanced view.

The committee then developed recommended grade and size regulations to limit supplies moving as fresh table stock to the 42,000-car target, restricting its table stock shipments on round white potatoes—the bulk of its crop—to U.S. No. 1 grade or better, 2¼-inch minimum and 4-inch maximum size. This type of regulation, which was the same as for the two previous seasons, meant that Maine's customers got only good quality, choice size potatoes, and the Maine market was protected from price depressing sizes and grades.

The committee planned to dispose of the remaining crop in secondary outlets. These included food processing and other local uses, plus deliveries to starch plants which traditionally take not only low grade pickouts, but also help to grind up surpluses.

Maine and the rest of the potato industry next sought and obtained a Federal diversion program to help shunt grades and sizes withheld under the marketing order to starch plants and to livestock feed.

Quality and size regulations under the marketing order were tied in closely with State of Maine potato advertising and merchandising programs. Thus, promotion agencies advertised with assurance that Maine was "shipping only the best," and their merchandising program backed up claims of quality with performance.

Meanwhile, the committee issued disposition reports giving timely information on potatoes shipped to table

stock market and seed, processed into food products, fed to livestock, ground into starch, plus losses by fire, shrinkage, and so forth. In this way, the entire trade as well as Maine farmers could keep track of the situation.

At regular intervals the committee reviewed its marketing plans in light of the disposition to date, estimated inventory, and what had to be done to move the rest of the crop. This information helped the industry to adjust its thinking to the current supply-outlet situation rather than to think mostly in terms of total crop or stocks estimates.

Also, the industry, particularly under the leadership of the local extension associations, sponsored monthly shipping goals for each town. Credit agencies cooperated in urging farmers to keep potatoes moving. The Federal diversion program helped to obtain acceptance of the restrictive quality and size program by making payments on merchantable grades and sizes of potatoes held off the market under the regulations and diverted to starch or livestock feed.

How did this marketing program come about? Briefly, it was the outgrowth of some hard times and clear thinking on how the industry could help itself. Following several years of heavy crops and low prices, a number of Maine farmers got together in the spring of 1954 and decided that, in addition to other marketing aids, a Federal Marketing Order could help them. Under an order they could do as an industry what many knew they should, but could not, do as individuals—that is, keep culls and other poor quality potatoes off the table stock market. The Federal marketing order, issued in August 1954, authorized Maine potato

	PLANNED (million cwt.)	ACTUAL (million cwt.)
PRODUCTION	40.6*	41.7**
DISPOSITION		
Farm use	5.0	4.9
Local sales		
Starch	10.0	12.5
Livestock feed	0.5	0.2
Seed	2.8	1.7
Food processing	1.8	1.8
Shipments		
Seed	2.8	2.6
Food	17.7	18.0

* November 1956 estimate

** Revised year-end estimate



farmers to nominate a marketing committee with authority to recommend the quality and size of potatoes to be shipped to the fresh market.

Faced with substantially more potatoes than could be marketed profitably in table stock outlets, the marketing committee in both the 1954 and 1955 seasons established tight grade and size regulations, and recommended that growers "ship only the best." This experience proved most valuable when it came to tackling the even larger 1956 crop.

Although the Maine potato industry cannot be complimented for having produced a 40,000,000 cwt. crop in 1956, much credit is due for the manner in which it worked itself out of this critical situation. It was tough to have grade and size restrictions strip out 30-35 percent of the normal quality storage lot. But it was, at that time, a very necessary measure if even modest returns were to be realized. Indeed, it demonstrated to the potato trade that Maine—as well as other States—can manage its marketing under surplus conditions in such a way that total production is not a measure of available supplies.

However, having the tools and ability for wrestling with a crop that is much too big is no excuse for consistent over-planting. Instead, the need for industry-wide planning at planting time becomes even more apparent. Extra supplies from too many acres create surpluses, put pressure on prices, and necessitate heavier withholdings than otherwise necessary to hold the market at reasonable levels. If the same prudent planning that characterized marketing of the 1956 crop were done each year at planting time, supplies could be held to more manageable levels with greater assurance of consistent, reasonable returns to potato farmers.

Last winter and spring State and local agencies in Maine carried on a well-organized campaign urging that plantings be kept in line with the U.S. Department of Agriculture's acreage-marketing guides. Their efforts helped to hold 1957 potato acreage in Maine to 6 percent less than a year ago, although slightly more than the recommended guide.

The Department's acreage-marketing guides offer each potato producing area a useful tool for industry-wide planning at planting time. These guides must be calculated so that production from the guide acreage, under normal conditions, will provide the quantities of top quality potatoes that can be marketed profitably as fresh table stock, as seed, and for processing into food products, with a residual cushion of the less desirable grades and sizes for disposition in secondary outlets.



Slicing

By Robert M. Conlogue

MARKETING costs for chicken and the way they are distributed as well as the kind of chicken and the form in which it goes across the counter are a matter of geography.

Researchers in the Agricultural Marketing Service studied the Chicago and Minneapolis-St. Paul market areas and their suppliers to get an idea how the marketing costs are divided.

The study showed that competition had a strong influence on the margins for poultry, since fryers often are used as a special attraction for buyers. For example, when fryers moved directly from processors through chain retailers, instead of going through wholesalers and independent retailers, the spread was 15 to 16 cents per pound in Chicago and 19 to 20 cents per pound in the Twin Cities.

More intense competition in Chicago helped to keep the retail price down. Chicago retailers often used fryers as low-margin lead items. The Minneapolis-St. Paul market is less aggressively competitive on fryers than Chicago, and apparently retailers there used other items to attract customers.

The price spread between farmer and consumer for icepacked fryers moving through processors, wholesalers, and independent retailers was 20 to 22 cents per pound in Chicago during the 1955-56 season. During this same season, fryers sold in the Minneapolis-St.

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Up the Chicken Costs

Paul area through the same marketing channel with a margin of 19 to 20 cents per pound.

Poultrymen in southeastern States — Georgia, Alabama, and Arkansas—got about 30 cents a pound, ready-to-cook basis, for their fryers. Producers near Chicago received some 33.3 cents a pound while those in the Minneapolis-St. Paul area got 32.3 cents.

When chicken fryers were frozen, the margin jumped due in part to the greater processing and distributing costs. Frozen eviscerated fryers, processed in the southeastern States and moving through wholesalers to independent retailers, had an overall spread of 36 cents a pound. When the frozen fryers were sold directly to chain stores, the margin was 27.5 cents in Chicago and 33 cents in the Minneapolis-St. Paul market. But the fryers which were handled by frozen food processors and sold directly to the chains were about 5 cents a pound higher. Differences in the type of outlet and distribution system account for the larger spread for chicken handled by the processors.

Distance from processor to market didn't have quite the effect on margins that might ordinarily be found. Icepacked fryers produced and processed in Georgia, Alabama, and Arkansas are shipped in large volume into the two northern markets. The southern operators worked on an average margin of 7.7 cents per pound, including transportation, with an additional half cent for shipment to the Twin Cities. Total operating costs were about 6.75 cents a pound with a return to operators of 0.95 cent before taxes. Labor

for receiving, dressing, and packaging made up the biggest single expense—one-third of the total.

Processors within 200 miles of the two market areas had an average operating margin of 8 cents a pound. Total operating costs were about 7.8 cents. Labor costs for these operators were about 1 cent a pound higher, boosting the margin. And, though shipping costs were lower, other costs were slightly or considerably higher than for the processors in the Southeast.

Wholesalers of fryers in the two markets had an average margin of 2.5 cents a pound, with salaries and wages making up nearly two-thirds of their costs.

There was a noticeable difference in the retail margin between independent stores and chain operators. Average independent retail margin was nearly 11 cents a pound in Chicago and slightly over 10 cents in Minneapolis and St. Paul. On the other hand, the margin for chain retailers in Chicago was 8.5 cents a pound, compared with 11 cents a pound in the Twin Cities. Here again, the use of fryers in Chicago as lead items held the margin down.

The AMS study indicates that most handlers, processors, wholesalers, and retailers operate on relatively narrow margins, especially for fresh icepacked poultry.

A more detailed report of the study will be published soon. Entitled "Marketing Costs and Margins for Chicken Fryers and Fowl Sold in Chicago and Minneapolis-St. Paul," the publication may be obtained by writing to the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

OFFICIAL BUSINESS

White Collar Workers Increasing In Food Manufacturing Industries

By Imogene Bright

EMPLOYMENT practices in the front office and on the production line of the food manufacturing industries are shifting with changing conditions. There has been an increase in the number and kind of management controls and in selling activities. As a result of increased mechanization and improved work methods, the number of production workers has decreased, while those not directly engaged in production, the so-called white collar workers, are increasing.

Between 1947 and 1956 production workers in the food manufacturing industries dropped 8 percent; white collar employees in these industries increased from 22 to 29 percent of total employment.

In fact, in three branches of the food and kindred products manufacturing industry, the number of white collar workers increased more than the average for white collar workers for the whole industry. This occurred in the manufacture of grain mill products, from 19 to 29 percent; the bakery products manufacturing industry, from 29 to 41 percent; and the manufacture of dairy products, from 22 to 34 percent.

During the same period, the number of production workers and their percentage of total industry employment declined in five areas of food manufacturing. These included grain mill products, bakery goods, dairy processing, canning and preserving, and sugar products. Although production workers in meat products manufacture increased, their proportion of the total meat industry employment declined.

All six of these industries, however, increased the volume of their food output in the 10-year period.

At the same time, the percentage of payroll going to administrative, professional, clerical, and sales workers also went up for these food manufacturing industries. Gains here ranged as high as 19 percentage points made by firms in dairy processing.

Several reasons may be given for this expansion of

front office personnel and activities. One reason, of course, is the growth of the individual industries.

Another can be found in industry's efforts to reduce costs and improve operating efficiency.

As an industry grows and becomes more complex, more management controls are needed to help maintain or increase efficiency. In mass production industries, accounting and other types of data aid management in deciding how and when to use its labor, raw material, plant, and equipment most advantageously. Sales promotion of various types becomes a necessity if the mass producers are to find mass markets as outlets for an expanded output of goods and services. All these activities require labor.

The ranks of white collar workers in food processing have also increased because mechanization has, to some extent, bypassed them. Work in the front office does not lend itself to mechanical techniques as easily as assembly line production.

In order to assess actual productivity of a food processing plant or of the industry as a whole, output may be compared with total number of employees. But this obscures the fact that fewer production workers may be engaged in producing the same or a greater quantity of goods. Actual output measured in dollars or number of items, if attributed to all employees, will increase or decrease at a slower rate than when related only to production workers.

Despite *lower direct production costs per unit*, increased administrative, professional, clerical, and sales costs may result in a *higher total labor unit cost*. Balancing this apparent rise, the activities of white collar workers may add to total value and indirectly increase output. Management cannot measure productivity of front office help in terms of amount of food produced. It contributes only indirectly to plant output.

When the manufacturer surveys the means toward cost reduction or more efficient production, he must consider the distinct parts played by and the proper balance of the two main groups in his labor force.

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